TI Design of synthetic hexapeptide ***substrates*** for prostate-specific antigen using single-position minilibraries
AU Yang, C. F.; Porter, E. S.; Boths, J.; Kanyi, D.; Hsieh, M.; Cooperman, B. S.
CS Department of Chemistry, Rowan University, Glassboro, NJ, 08028, USA
SO Journal of Peptide Research (1999), 54(5), 444-448
CODEN: JPERFA; ISSN: 1397-002X
PB Munksgaard International Publishers Ltd.
DT Journal
LA English
AB Prostate-specific antigen (PSA), a serine endoprotease with chymotrypsin-like ***substrate*** specificity, is a marker used widely for detection of prostate cancer and other prostate diseases, catalyzing hydrolysis of the gel-forming proteins semenogelins I and II, which are synthesized and secreted by the seminal vesicle. In this study we report the use of two single-position minilibraries and RP-HPLC selection to optimize a hexapeptide ***substrate*** for PSA, spanning ***substrate*** positions P3 to P3'. PSA has been shown previously to prefer tyrosine in position ***P1*** (Denmeade, S.R., et al., 1997). Here we demonstrate preference for serine in position ***P1*** ' and strong preference for phenylalanine in position P2. Based on these results we have designed and demonstrated the utility of the optimized fluorogenic PSA ***substrate*** 7-methoxy-coumarin-4-acetylGlnPheTyrSerSerAsnLys(.epsilon.-2,4-dinitrophenyl)amide, which permits continuous monitoring of PSA endopeptidase activity at high sensitivity.
RE.CNT 19 THERE ARE 19 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L68 ANSWER 8 OF 8 CAPLUS COPYRIGHT 2005 ACS on STN
AN 1998:556406 CAPLUS
DN 129:312624
TI ***Substrate*** specificity of non-pepsin-type acid proteinase, Aspergillus niger proteinase A
AU Komatsu, Shinji; Nishii, Wataru; Sasaki, Hiroshi; Muramatsu, Tomonari; Tanokura, Masaru
CS Biotechnology Research Center, University of Tokyo, Tokyo, 113, Japan
SO Advances in Experimental Medicine and Biology (1998), 436(Aspartic Proteinases), 345-348
CODEN: AEMBAP; ISSN: 0065-2598
PB Plenum Publishing Corp.
DT Journal
LA English
AB The peptide ***library*** method was applied to investigate the ***P1*** and P2 site specificities of Aspergillus niger proteinase A. The resp. peptide ***substrates*** were RGFFXTPRA and RGFXYTPRA. The specificity at the ***P1*** site is higher than that at P2 and is considerably complicated. Methionine, phenylalanine and histidine are the preferred ***P1*** site residues. The results on P2 site specificity showed that the ***enzyme*** tends to ***cleave*** only those peptides which a contain large residue at P2; residue charge did not affect specificity.
RE.CNT 12 THERE ARE 12 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

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(FILE 'HOME' ENTERED AT 17:50:58 ON 10 AUG 2005)

FILE 'MEDLINE, BIOSIS, CAPLUS' ENTERED AT 17:51:13 ON 10 AUG 2005
L1 42 S HYDROPATHIC INDEX

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L2            1 S L1 AND REVIEW
L3            0 S HYDROPATHIC INDEX/TI
L4          798 S HYDROPATHIC
L5          130 S HYDROPATHIC/TI
L6            3 S L5 AND REVIEW
L7            3 DUP REM L6 (0 DUPLICATES REMOVED)
L8          301 S L4 AND PREDICT?
L9            2 S L8 AND REVIEW
L10         304 S HYDROPATH?/TI
L11         174 S L10 NOT L5
L12           0 S LL1 AND ENZYM? AND SUBSTRAT?
L13           7 S L11 AND ENZYM?

     FILE 'STNGUIDE' ENTERED AT 17:59:06 ON 10 AUG 2005

     FILE 'MEDLINE, BIOSIS, CAPLUS' ENTERED AT 18:00:23 ON 10 AUG 2005
L14         124 S HYDROPATH? AND ENZYM? AND SUBSTRAT?
L15           0 S L14 AND REVIEW
L16          42 S L14 AND (PREDICT? OR UNPREDICT?)
L17           0 S L14 AND UNPREDICT?
L18           1 S L16 AND CLEAV?
L19          16 S L14 AND LIBRARY
L20           8 DUP REM L19 (8 DUPLICATES REMOVED)
L21           5 S L14 AND SUBSTIT?
L22           3 DUP REM L21 (2 DUPLICATES REMOVED)
L23          55 S HYDROPATH? AND PEPTID? AND MIM?
L24          22 DUP REM L23 (33 DUPLICATES REMOVED)
L25           2 S L24 AND REVIEW
L26           2 S L24 AND ENZYM?
L27        4559 S HYDROPATH?
L28          45 S L27 AND OLIGOPEP?
L29          33 DUP REM L28 (12 DUPLICATES REMOVED)
L30           0 S L29 AND REVIEW
L31           5 S L29 AND ENZYM?
L32          11 S L10 AND REVIEW
L33           8 S L32 NOT L6
L34           6 DUP REM L33 (2 DUPLICATES REMOVED)

     FILE 'STNGUIDE' ENTERED AT 18:22:44 ON 10 AUG 2005

     FILE 'MEDLINE, BIOSIS, CAPLUS' ENTERED AT 18:24:17 ON 10 AUG 2005
L35         103 S L27 AND REVIEW
L36           5 S L35 AND SUBSTRAT?
L37           5 DUP REM L36 (0 DUPLICATES REMOVED)
L38          62 S L27 AND ((OLIGOPEP?) OR (PEP? MIM?) OR PEPTO?)
L39          39 DUP REM L38 (23 DUPLICATES REMOVED)
L40           9 S L39 AND (ENZYM? OR SUBSTRAT?)
L41           9 DUP REM L40 (0 DUPLICATES REMOVED)
L42        1095 S L27 AND ENZYM?
L43          13 S L27 AND CONSERV? SUB?
L44           5 DUP REM L43 (8 DUPLICATES REMOVED)
L45          24 S L27 AND SUBSTRAT?/TI
L46           8 DUP REM L45 (16 DUPLICATES REMOVED)
L47       15695 S SITE DIRECT? AND MUTAGEN? AND SUBSTRAT?
L48        2511 S L47 AND SUBSTRAT?/TI
L49          97 S L48 AND CONSERVATI?
L50           0 S L49 AND REVIEW
L51          53 DUP REM L49 (44 DUPLICATES REMOVED)
L52         862 S SUBSTRAT?/TI AND ENZYM? AND LIBRAR?
L53         233 S L52 AND (CLEAV? OR SISS?)
L54           0 S L53 AND SISS?
L55           0 S L53 AND SISC?
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L56         241 S L52 AND (CLEAV? OR SCIS?)
L57           2 S L56 AND REVIEW
L58           2 DUP REM L57 (0 DUPLICATES REMOVED)
L59           3 S L56 AND HYDROPATH?
L60         981 S SUBSTRAT? AND ENZYM? AND LIBRAR? AND (CLEAV? OR SCIS?)
L61         976 S L60 NOT (L57 OR L58 OR L59)
L62          15 S L61 AND REVIEW
L63          11 DUP REM L62 (4 DUPLICATES REMOVED)
L64         130 S L61 AND P1
L65          70 DUP REM L64 (60 DUPLICATES REMOVED)
L66          28 S L65 AND (ALZH? OR APP? OR AMYLOID?)
L67           1 S L65 AND (ALZH? OR APP OR AMYLOID?)
L68           8 S L65 AND STRUCTURE ACTIVITY
L69           0 S L65 AND REVIEW

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